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ABSTRACT

A Management Foundations course offered over the University of Wisconsin Statewide Extension Education Network (SEEN) was delivered via two-way audio and one-way visual transmission to receiving stations throughout the state. With one instructor, 48 graduate students all over the state were able to enroll in the course, making the cost of SEEN courses $19.29 per student credit, compared to the average cost of $55.00 for on campus courses. Demographic factors, class size, geographic location, and reason for enrollment in the course did not yield any statistical difference in midterm or final test performance, indicating that SEEN is applicable to a wide variety of students. (EMH)

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MEDIATED GRADUATE INSTRUCTION--DOES IT WORK?

W. Sam Adams and Dorothy A. Wentorf

INTRODUCTION

"Mediated courses," "non-traditional programs," "external degrees," "outreach programs," "innovation," "flexibility," "continuing . . ." or "permanent education" are all terms with overtones of new directions and requirements for many educational delivery systems. They seem to be worthy of particular consideration by those concerned with graduate education in business administration where an employed student body, often diverse in age, location, and experience, seeks career development and continual upgrading of management theories and skills.

In addition to being committed to a philosophy which combines creative approaches and high academic standards, schools of business involved in these programs must seek ways of implementing this philosophy. At least several methods and techniques, tailored to each school's program and clientele, will probably need to be "packaged" to provide the best offerings. Sound program development requires, however, that new and varied techniques be experimented and thoroughly evaluated if an innovative, effective delivery system for management (or any other type) of education is to be realized.

GENERAL STATEMENT OF THE PROJECT

Offering a Management Foundations course over the (Wisconsin) Statewide Extension Education Network (SEEN) provided an opportunity to test a relatively new media technique. How useful is this technique in delivering a course of this type to students geographically scattered throughout the

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state, and who are diverse in age, years of business experience, and educational background? What factors, if any, relating to the equipment, facilities, or instructional techniques appeared to be important to their academic performance or reactions to the course? What recommendations can be made for future programming? This report seeks to answer these questions.

EXPLANATION OF SEEN

At the time this course was presented, the University of Wisconsin SEEN provided 2-way audio and 1-way visual contact with 17 receiving stations throughout the state. The University of Wisconsin-Oshkosh was scheduled to present several foundations courses for the M.B.A. degree for a two and one-half hour period once a week. The Management Foundations course met for 16 weeks, had 48 students, and involved 10 locations in addition to the Oshkosh sending classroom.

The SEEN equipment included: an audio sending unit equipped with a neck microphone for the instructor to transmit over telephone lines to all listening stations; a handset telephone at each receiving classroom for communication with the initiating classroom; an electro-writer unit for the instructor to write lecture notes, graphs, equations, test questions, etc.; and an electrowriter receiving unit in all classrooms (projector and screen) to reproduce the instructor's handwriting throughout the class period. At all times when the Network was in use, a technician was on duty in a Madison control room to monitor the equipment and offer advice on any equipment problems.

EXPLANATION OF THE COURSE

Management Foundations is a principles course which is prerequisite to courses in the "Management Core" of the University of Wisconsin-Oshkosh

M.B.A. program. It is a 3 credit course in the graduate curriculum which is completed by those who have no prior academic background in the management area (the course credits received are in addition to the 30 credits required for the M.B.A. degree).

The approach taken in this course was basically an examination of the functions of management; that is, planning, organizing, staffing, and controlling. Within this framework applications of ideas from the behavioral sciences and operations management were introduced. Weekly mailings to each class member contained the behavioral objectives and questions for class discussion relating to the coming week's material and any additional assignments. While lecture was the predominant technique used, others included group discussion, short student presentations of various topics, and case studies.

REPORT OF FINDINGS

One of the primary purposes of experimenting with SEEN was to determine the universality of the technique. Deans of schools of business might well ask: How much does it cost in comparison to traditional instruction? Does the technique appeal to certain types of students? How do students react to this technique? Are academic standards compromised? What are the main advantages and, conversely, the main advantages of SEEN? These as well as other factors relating to SEEN are briefly dealt with here.

Economic Feasibility. With one instructor, 48 graduate students all over the state of Wisconsin were able to enroll in a management foundation course. While it is true that an instructor could handle this number on campus in one lecture at less cost, the fact is that only 16 students enrolled for the course at Oshkosh, the principal sending station. The

additional two-thirds enrollment consisted of students who would have had to travel up to 100 miles from the Oshkosh campus.

The University of Wisconsin-Oshkosh School of Business Administration average cost for instruction at the graduate level is approximately $55.00 per student credit; the average cost of the SEEN system is $.09 per student contact hour or about $1.44 per student credit for one 16 week term. If the Management course was offered to only the 16 who attended on campus, the cost would have been $2,640 (16 students x $55.00 x 3 credits). However, another 32 students were serviced at the 10 other locations for only an additional $138.24 (32 students x $1.44 x 3 credits). Therefore, the average instructional cost per student credit hour for 48 students was reduced from $55 per SCH for traditional instruction to only $19.29 per SCH by using SEEN.

Another economic factor, although not directly accountable to the School, is student transportation costs. If students had to commute to Oshkosh from the 10 locations in this experiment, it probably would have made the cost prohibitive for most of the enrollees. Therefore, there was a larger gross enrollment in the course than would otherwise have been the case. The school is ahead with a higher SCH yield and the student is economically ahead by only having to travel a few miles to a receiving station.

Academic Performance and Student Heterogeneity. Several student demographic characteristics were studied in relationship to academic performance during the experiment with SEEN. Student ages ranged from 20 to over 40, several persons had little more than a high school diploma while one individual had credits above his Master's degree, and people's full time business experience varied from none to over 15 years. Test score results either

on the midterm or the final did not show any significant relationship with any of these variables.

Similarly, when student test scores were analyzed according to class size and geographical location, no statistical difference was detected in how they performed. Finally, students were asked why they enrolled in the course, i.e., to earn credit toward an M.B.A. or for professional development. Once again, no evidence was found to support a hypothesis that SEEN is more beneficial for one kind of student. Therefore, SEEN seems to be applicable to a wide variety to students regardless of their backgrounds and goals.

Affective reactions to SEEN System. To measure student attitudes toward SEEN, affective statements were devised and added to each test instrument. Overall evaluation of the system was "neutral",i.e. students did not rate SEEN favorably or unfavorably. A similar response was found on their attitudes toward enrolling in additional courses taught in the same manner. While these reactions are not positive, it does seem fair to conclude that the "mechanics" do not detract from the regular presentation and that the success of the course is more dependent on other factors.

Specifically students did rate the equipment above average on ease of operation, voice clarity and understanding the material. On the other hand, average or neutral ratings were recorded for visual reception and ease of asking questions over the telephone system. The lack of enthusiastic endorsement for these latter two items appears to be valid since writing space is rather limited (3" x 5") on the electrowriter; the device tends to distort writing; and only one handset phone was available to a

group of 11 people at a receiving station.

What made it work? The use of behavioral objectives added structure to the course and set levels of expectation for student performance. When students are spread-out geographically and are diverse in age, ability, and experience, additional course structure may be necessary. Students reacted very favorably to affective statements dealing with behavioral objectives. They felt objectives helped them study for courses and were an effective means for organizing instruction, learning experiences and evaluation. Supplementing SEEN with behavioral objectives appears to have been a valuable contribution to the success of the experimental project.

RECOMMENDATIONS

Based on the need to provide learning to mature, employed individuals who are not always free to come to traditional campus-based classes, contemporary schools of business administration must consider alternative delivery systems. Their new technology in education must not only be talked about and recommended but actually tried and evaluated for its appropriateness and effectiveness.

The results of this experiment indicate that:

1. Use of a technique like SEEN appears to be appropriate for presenting a graduate level business administration course of this type from the viewpoints of both student academic performance and attitude. There is no indication that it is more or less applicable to students of particular age groups, educational background, or years of business experience; thus, it is useful for the diverse group of mature students which frequently enrolls in either an M.B.A. program or for professional development.

2. When considering the factors which contribute to the favorable reaction to the course, the technique itself is a relatively neutral factor, neither evoking strong feeling for or against it. A number of other factors, however, seem related to course success:

a. Properly operating equipment.

b. Easy access to telephones and microphones and encouragement of class participation.

c. Comfortably heated and ventilated classrooms.

d. Course objectives and materials clearly presented in appropriate depth and quantity.

e. Thorough instructor preparation and concern for student progress.

In summary, criteria used to judge most well-prepared and effectively presented courses seem to be operative in this situation as well. None of the reactions indicate that the instructor must be more skilled in dramatics, mechanically inclined, or uniquely trained than in most usual classroom situations.

3. These findings may apply to other forms of mediated instruction such as conference phone presentations accompanied by prepared visuals which have been sent in advance to each class location or to video-tape presentations with conference phone discussion periods. Perhaps a course planned to use a variety of techniques and devices combined with periodic seminars might maximize effectiveness.

The results argue for expansion of these types of offerings and close monitoring as they develop.

Aug. 1973